

WHAT IS CLAIMED IS:

1. An inflatable cellular cushioning article having a plurality of inflatable chambers with each chamber comprising a plurality of inflatable cells connected in series with one another, the article being made from a first multilayer film having a unit weight of from 20 to 250 grams per square meter sealed to itself or a second film having a unit weight of from 20 to 250 grams per square meter, wherein the first and second films each comprise an outer seal layer, a gas barrier layer, and a tie layer between the seal layer and the gas barrier layer, with the tie layer comprising an anhydride modified olefin polymer containing anhydride at a level of at least 150 ppm, based on the weight of the modified olefin polymer.
2. An inflatable cellular cushioning article having a plurality of inflatable chambers with each chamber comprising a plurality of inflatable cells connected in series with one another, the inflatable cells having a maximum lay flat dimension of from 1 to 3 inches, the article being made from a first multilayer film having a unit weight of from 20 to 70 grams per square meter sealed to itself or a second multilayer film having a unit weight of from 20 to 70 grams per square meter, wherein the first and second films each comprise an outer seal layer, a gas barrier layer, and a tie layer between the seal layer and the gas barrier layer, the article exhibiting a failure pressure of at least 7 psi.
3. An inflatable cellular cushioning article having a plurality of inflatable chambers with each chamber comprising a plurality of inflatable cells connected in series with one

another, the inflatable cells having a maximum lay flat dimension of from 3 inches to 6 inches, the article being made from a first multilayer film having a unit weight of from 60 to 250 grams per square meter sealed to itself or a second multilayer film having a unit weight of from 60 to 250 grams per square meter, wherein the first and second films each comprise an outer seal layer, a gas barrier layer, and a tie layer between the seal layer and the gas barrier layer, the article exhibiting a failure pressure of at least 7 psi.

4. An inflatable cellular cushioning article having a plurality of inflatable chambers with each chamber comprising a plurality of inflatable cells connected in series with one another, the inflatable cells having a maximum dimension of from 1 to 3 inches, the article being made from a first multilayer film having a unit weight of from 20 to 70 grams per square meter sealed to itself or a second multilayer film having a unit weight of from 20 to 70 grams per square meter, wherein the first and second films each comprise an outer seal layer, a gas barrier layer, and a tie layer between the seal layer and the gas barrier layer, the article being capable of withstanding inflation to an internal pressure of 3 psi measured at 23°C and 1 atmosphere ambient pressure with the resulting inflated article being subjected to a reduced ambient pressure of 0.542 atmosphere for a period of 5 minutes at a temperature of 23°C, without film failure, seal failure, or delamination of film layers from one another.
5. An inflatable cellular cushioning article having a plurality of inflatable chambers with each chamber comprising a plurality of inflatable cells connected in series with one

another, the inflatable cells having a maximum dimension of from 3 inches to 6 inches, the article being made from a first multilayer film having a unit weight of from 60 to 250 grams per square meter sealed to itself or a second multilayer film having a unit weight of from 60 to 250 grams per square meter, wherein the first and second films each comprise an outer seal layer, a gas barrier layer, and a tie layer between the seal layer and the gas barrier layer, the article being capable of withstanding inflation to an internal pressure of 3 psi measured at 23°C and 1 atmosphere ambient pressure with the resulting inflated article being subjected to a reduced ambient pressure of 0.542 atmosphere for a period of 5 minutes at a temperature of 23°C, without film failure, seal failure, or delamination of film layers from one another.

6. An inflatable cellular cushioning article having a plurality of inflatable chambers with each chamber comprising a plurality of inflatable cells connected in series with one another, the inflatable cells having a maximum dimension of from 1 to 3 inches, the article being made from a first multilayer film having a unit weight of from 20 to 70 grams per square meter sealed to itself or a second multilayer film having a unit weight of from 20 to 70 grams per square meter, wherein the first and second films are multilayer films each having a seal layer, a gas barrier layer, and a tie layer between the seal layer and the gas barrier layer, the article being capable of withstanding inflation to an internal pressure of 3 psi measured at 23°C and 1 atmosphere ambient pressure with the resulting inflated article being subjected a load of 0.1 psi for a period of 7 days hours at a temperature of 140°F, without film failure, seal failure, or delamination of film layers from one another.

7. An inflatable cellular cushioning article having a plurality of inflatable chambers with each chamber comprising a plurality of inflatable cells connected in series with one another, the inflatable cells having a maximum dimension of from 3 inches to 6 inches, the article being made from a first multilayer film having a unit weight of from 60 to 250 grams per square meter sealed to itself or a second multilayer film having a unit weight of from 60 to 250 grams per square meter, wherein the first and second films are multilayer films each having a seal layer, a gas barrier layer, and a tie layer between the seal layer and the gas barrier layer, the article being capable of withstanding inflation to an internal pressure of 3 psi measured at 23°C and 1 atmosphere ambient pressure with the resulting inflated article being subjected a load of 0.1 psi for a period of 7 days hours at a temperature of 140°F, without film failure, seal failure, or delamination of film layers from one another.
8. An inflatable cellular cushioning article having a plurality of inflatable chambers with each chamber comprising a plurality of inflatable cells connected in series with one another, the inflatable cells having a maximum dimension of from 1 to 3 inches, the article being made from a first multilayer film having a unit weight of from 20 to 70 grams per square meter sealed to itself or a second multilayer film having a unit weight of from 20 to 70 grams per square meter, wherein the first and second films each comprise an outer seal layer, a gas barrier layer, and a tie layer between the seal layer and the gas barrier layer, the article being capable of withstanding an internal inflation pressure of 3 psi, measured at 23°C and 1 atmosphere ambient pressure, for a

period of 4 hours at a temperature of 140°F, without film failure, seal failure, or delamination of film layers from one another.

9. An inflatable cellular cushioning article having a plurality of inflatable chambers with each chamber comprising a plurality of inflatable cells connected in series with one another, the inflatable cells having a maximum dimension of from 3 to 6 inches, the article being made from a first multilayer film having a unit weight of from 60 to 250 grams per square meter sealed to itself or a second multilayer film having a unit weight of from 60 to 250 grams per square meter, wherein the first and second films each comprise an outer seal layer, a gas barrier layer, and a tie layer between the seal layer and the gas barrier layer, the article being capable of withstanding an internal inflation pressure of 3 psi, measured at 23°C and 1 atmosphere ambient pressure, for a period of 4 hours at a temperature of 140°F, without film failure, seal failure, or delamination of film layers from one another.

10. The inflatable cellular cushioning article according to Claim 8, wherein the gas barrier layer of the first and second films comprises at least one member selected from the group consisting of crystalline polyamide, crystalline polyester, ethylene/vinyl alcohol copolymer, polyacrylonitrile, and crystalline cycloolefin.

11. The inflatable cellular cushioning article according to Claim 8, wherein the tie layer comprises an anhydride modified ethylene/C₄₋₁₀ alpha-olefin copolymer.

12. The inflatable cellular cushioning article according to Claim 8, wherein the seal layer of the first and second films comprises at least one member selected from the group consisting homogeneous ethylene/alpha-olefin copolymer, very low density polyethylene, low density polyethylene, and linear low density polyethylene.

13. The inflatable cellular cushioning article according to Claim 8, wherein the first film has first and second outer layers, a central gas barrier layer, a first tie layer between the first outer layer and the gas barrier layer, and a second tie layer between the gas barrier layer and the second outer layer.

14. The inflatable cellular cushioning article according to Claim 13, wherein the first and second outer layers of the first film have the same layer thickness and have the same polymeric composition, and the first and second tie layers of the first film have the same layer thickness and the same polymeric composition.

15. The inflatable cellular cushioning article according to claim 8, wherein the article comprises the first film heat sealed to the second film.

16. The inflatable cellular cushioning article according to Claim 15, wherein:
the first film has first and second outer layers, a central gas barrier layer, a first tie layer between the first outer layer and the gas barrier layer, and a second tie layer between the gas barrier layer and the second outer layer; and

the second film has an first and second outer layers, a central gas barrier layer, a first tie layer between the first outer layer and the gas barrier layer, and a second tie layer between the gas barrier layer and the second outer layer.

17. The inflatable cellular cushioning article according to Claim 16, wherein the first and second outer layers of the first film have the same layer thickness and have the same polymeric composition, and the first and second tie layers of the first film have the same layer thickness and the same polymeric composition; and the first and second outer layers of the second film have the same layer thickness and have the same polymeric composition, and the first and second tie layers of the second film have the same layer thickness and the same polymeric composition.

18. The inflatable cellular cushioning article according to Claim 8, wherein the first film has a thickness of from 1 mil to 2 mils and the second film has a thickness of from 1 mil to 2 mils.

19. The inflatable cellular cushioning article according to Claim 8, wherein the tie layer comprises anhydride modified polyolefin.

20. The inflatable cellular cushioning article according to Claim 8, wherein the tie layer comprises an anhydride modified ethylene/C₄₋₈ copolymer having an anhydride content of at least 160 ppm as determined by pyrolysis GCMS.

21. The inflatable cellular cushioning article according to Claim 20, wherein the anhydride modified polyolefin comprises anhydride modified linear low density polyethylene having an anhydride content of at least 180 ppm as determined by pyrolysis GCMS.

22. The inflatable cellular cushioning article according to Claim 8, wherein the chambers extend transversely from an closed inflation manifold which extends along a machine direction.

23. The inflatable cellular cushioning article according to Claim 8, wherein the chambers extend transversely from an open skirt which extends along a machine direction.

24. The inflatable cellular cushioning article according to Claim 8, wherein each chamber comprises from 3 to 40 cells.

25. The inflatable cellular cushioning article according to Claim 8, wherein the cells have a major uninflated axis which has a length of from 0.5 inch to 2.5 inches.